

WHAT IS CLAIMED IS:

1. A dielectric particle aggregate made of dielectric particles containing Ti, characterized in that the particles contain one or more
5 oxides including Ti and Zn in the surface layer thereof.

2. The dielectric particle aggregate as claimed in claim 1, wherein the oxides including Ti and Zn are ZnTiO_3 and/or Zn_2TiO_4 .

10 3. The dielectric particle aggregate as claimed in claim 1, wherein the dielectric containing Ti is a $\text{BaO-TiO}_2\text{-Nd}_2\text{O}_3$ type dielectric, a BaTiO_3 type dielectric or an SrTiO_3 type dielectric.

15 4. The dielectric particle aggregate as claimed in claim 1, wherein the dielectric containing Ti is a $\text{BaO-TiO}_2\text{-Nd}_2\text{O}_3$ type dielectric that contains as principal ingredients BaO by 10 to 16 mol%, TiO_2 by 67 to 72 mol% and Nd_2O_3 by 16 to 18 mol% and as auxiliary ingredients Bi_2O_3 by 7 to 10 parts by weight and Al_2O_3 by 0.3 to 1.0 parts by weight relative to 100 parts by weight of the principal ingredients.

20 5. The dielectric particle aggregate as claimed in claim 1, wherein the surface layer that contains one or more oxides including Ti and Zn has a thickness not greater than 50 nm.

25 6. The dielectric particle aggregate as claimed in claim 1, wherein the dielectric particle aggregate has an average particle size of 0.4 μm to 3.0 μm .

30 7. A method of manufacturing a dielectric particle aggregate as claimed in any one of claims 1 to 6, characterized by comprising the

steps of mixing ZnO with an aggregate of particles of a dielectric base material containing Ti and subjecting the resultant mixture to a calcinatory process.

5 8. The method of manufacturing dielectric particle aggregate as claimed in claim 7, wherein 0.5 to 10 parts by weight of ZnO is mixed with 100 parts by weight of the aggregate of particles of dielectric base material.

10 9. The method of manufacturing dielectric particle aggregate as claimed in claim 7, wherein the calcinatory process is conducted in an oxygen-containing atmosphere.

15 10. The method of manufacturing dielectric particle aggregate as claimed in claim 7, wherein the temperature of the calcinatory process is 900 to 1,200°C.

20 11. A low temperature sinterable dielectric ceramic composition characterized by containing the dielectric particle aggregate as claimed in any one of claims 1 to 6 by 100 parts by weight and a glass component by 2.5 to 20 parts by weight.

25 12. The low temperature sinterable dielectric ceramic composition as claimed in claim 11, wherein the glass component contains ZnO by 45 to 70 wt%, B₂O₃ by 5 to 13 wt%, SiO₂ by 7 to 40 wt% and Al₂O₃ by 8 to 20 wt%.

30 13. A low-temperature-sintered dielectric ceramic characterized by containing 100 parts by weight of dielectric particles constituting the dielectric particle aggregate as claimed in any one

of claims 1 to 6 and 2.5 to 20 parts by weight of glass component.

14. The low-temperature-sintered dielectric ceramic as claimed
in claim 13, wherein the glass component contains ZnO by 45 to 70 wt%,
5 B₂O₃ by 5 to 13 wt%, SiO₂ by 7 to 40 wt% and Al₂O₃ by 8 to 20 wt%.

15. A method of manufacturing a low-temperature-sintered
dielectric ceramic characterized by comprising the step of sintering
the low temperature sinterable dielectric ceramic composition as
10 claimed in claim 11 at 880 to 1,000°C.

16. The method of manufacturing low-temperature-sintered
dielectric ceramic as claimed in claim 15, wherein the glass component
contains ZnO by 45 to 70 wt%, B₂O₃ by 5 to 13 wt%, SiO₂ by 7 to 40 wt%
15 and Al₂O₃ by 8 to 20 wt%.

17. The method of manufacturing low-temperature-sintered
dielectric ceramic as claimed in claim 15, wherein the sintering step
is conducted on a laminate having a layer containing the low temperature
20 sinterable dielectric ceramic composition and a layer containing metal
to thereby obtain an electronic part having a laminated structure where
the metal layer functions as an internal conductor.

18. The method of manufacturing low-temperature-sintered
25 dielectric ceramic as claimed in claim 17, wherein the metal layer is
made of Ag, Cu or an alloy containing at least either of them.